ABSTRACT

Farkašovský M.: Biological activity of plant metabolites XXIX. Alkaloids of selected cultivars of Narcissus triandrus L. and their influence on acetylcholinesterase and butyrylcholinesterase. Diploma thesis. Charles University in Prague, Faculty of Pharmacy in Hradec Králové, Department of pharmaceutical botany and ecology, Hradec Králové 2015, 70 pages

Screening of seven bulb samples of Narcissus genus was performed. It included cultivars *Narcissus triandrus* cv. Hawera*, Narcissus triandrus* cv. Ice Wings*, Narcissus triandrus* cv. Stint*, Narcissus triandrus* cv. Tresamble*, Narcissus cyclamineus* cv. February Gold*, Narcissus cyclamineus* cv. Greenlet and *Narcissus cyclamineus* cv. Itzim.

Primary extract was prepared by boiling crushed bulbs in ethanol 95% and then it was condensated. After extraction in diethyl ether and ethyl acetate was pure alkaloid extract dried with air flow in water bath. Isolated alkaloid extracts were tested for their inhibition activity on acetylcholinesterase and butyrylcholinesterase. Also GC-MS analysis was provided to identify alkaloids.

These alkaloids were identified with GC-MS analysis – epinorgalanthamine, galanthamine, galanthine, haemanthamine, hippeastrine, homolycorine, cherylline, incartine, lycoramine, lycoramine-acetate, lycorine, narwedine, neruscine, sanguinine and tazettine.

The best inhibition effect on acetylcholinesterase and butyrylcholinesterase has extract from *Narcissus triandrus* cv. Stint (AL-475) with IC_{50} (AChE) 4,48 ± 0,057 µg.ml^{-1} and IC_{50} (BuChE) 43,23 ± 3,39 µg.ml^{-1}.

Key words: *Narcissus triandrus*, alkaloid extracts, acetylcholinesterase, butyrylcholin-esterase, GC-MS